Art and Rare Materials BIBFRAME Ontology Extension

CUL Metadata Working Group, 2018.09.21
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http://bit.ly/mwgarm20180921

LD4...

Native RDF cataloging & ontology extensions

Collaborations with community partners

Community-developed extensions of BIBFRAME

THE ANDREW W. MELLON FOUNDATION

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Motivation

Credit: Martin, Leigh Ann. "BIBFRAME: Knocking Down the Machine-Readable Language Barrier". Discovery, Technology & Publishing Boatwright Memorial Library – University of Richmond: http://discovery.urlibraries.org/?p=720

Art & Rare Materials BIBFRAME Ontology Extension

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Collaboration between:

- LD4 Partner Institutions: Cornell and Columbia
- RareMat: RBMS' Bibliographic Standards Committee
- ArtFrame: ARLIS' Cataloging Advisory Committee, Library of Congress Prints & Photographs Division, The Clark Library, The Morgan Library & Museum

R B M S

Rare Books and Manuscripts Section

Association of College and Research Libraries
A Division of the American Library Association

ARLIS/NA

ART LIBRARIES SOCIETY of NORTH AMERICA

Art & Rare Materials BIBFRAME Ontology Extension

Special CUL Mentions:

- Huda Khan : VitroLib implementation magician
- Dean Krafft : great supporter
- Margaret Nichols : rare materials ace
- Rebecca Younes : ontology wizard
- Simeon Warner : solution deviner & great supporter

Art & Rare Materials BIBFRAME Ontology Extension

GitHub Repository: https://github.com/LD4P/arm

Wikis: https://wiki.duraspace.org/x/CpTBB

https://wiki.duraspace.org/x/ApTBB

ARM Modeling Areas

Accession Numbers
Attributions
Awards
Bibliographic Citations
Bindings
Carriers and Bound-withs
Custodial History
Exhibitions
Fonts, Handwriting & Notations
Limitation Statements
Markings
Materials
Measurements
Notes in Art
Pagination and Foliation
Physical Condition
Signature Statements
Style and Period
Titles in Art

https://bit.ly/2y7duUP

Modularized Ontologies

Core (ARM) https://github.com/LD4P/arm/tree/master/core/ontology/0.1

Awards https://github.com/LD4P/arm/tree/master/award/ontology/0.1

Custodial History https://github.com/LD4P/arm/tree/master/custodial_history/ontology/0.1

Measurements https://github.com/LD4P/arm/tree/master/measurement/ontology/0.1

Activity https://github.com/LD4P/arm/tree/master/activity/ontology/0.1

Activity model under consideration for deprecation in favor of BF Contribution

Testing the Model

Workshops

Feedback:

- difficult to parse questions of ontology, application profile or editing environment

Application Profiles

Application Profile Development - Process

Define data **and application** expectations with catalogers

Collaboration: catalogers, ontologists, and developers

- Introduction to modeling for developer
- Translating data expectations into the app
- Translating cataloger UI expectations into the app

My mother told me to pick the very best one...

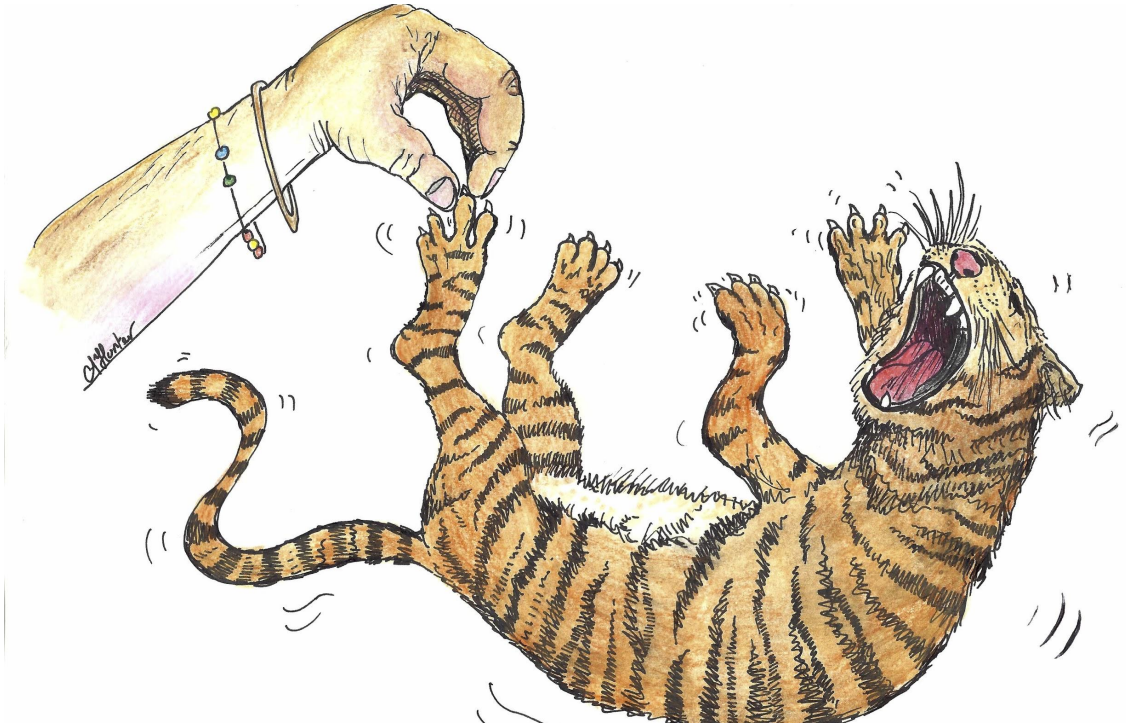


Image credit: CA Hunter, found @ http://grantmagazine.com/the-n-word-special-report-chapter-ii/

Shapes Constraint Language (SHACL)

w3c Recommendation

Existing Tooling

Shape types:

- Validating
- UI Non-Validating useful for form generation

ARM Application Profiles

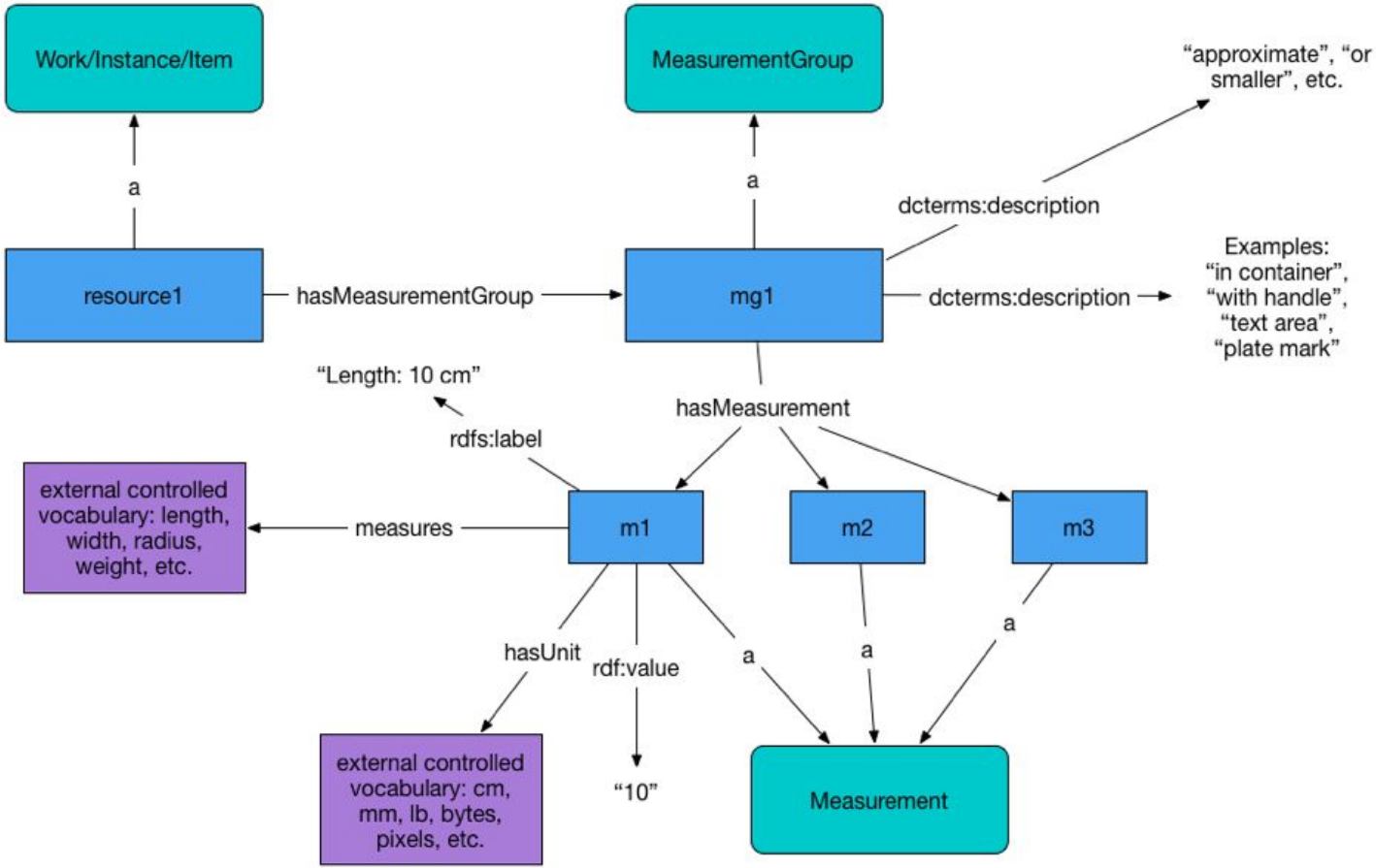
Art Object

https://github.com/LD4P/arm/tree/master/application_profiles/art/shacl

Rare Monograph

https://github.com/LD4P/arm/tree/master/application_profiles/raremat_monograph/shacl

ARM + SHACL -> VitroLib Behavior: Measurements



ARM + SHACL -> VitroLib Behavior: Measurements

```
raremat_monograph_form:InstanceForm_measure_hasMeasurementGroup
    a sh:PropertyShape ;
    sh:path measure:hasMeasurementGroup ;
    sh:class measure:MeasurementGroup ;
    sh:group raremat_monograph_property_groups:InstancePhysicalDescriptionPropertyGroup ;
    sh:name "Instance measurement information" ;
    sh:nodeKind sh:IRI ;
    sh:order "1"^^xsd:int ;
    tosh:editWidget swa:NestedObjectEditor .
```

ARM + SHACL -> VitroLib Behavior: Measurements

```
raremat_monograph_form:MeasurementGroupForm_measure_hasMeasurement
    a sh:PropertyShape ;
    sh:path measure:hasMeasurement ;
    sh:class measure:Measurement ;
    sh:description "The measurement of a single aspect of a resource, including value, units, and the dimension measured. I
    sh:name "Single measurement" ;
    sh:nodeKind sh:IRI ;
    sh:order "0"^^xsd:int ;
    tosh:editWidget swa:NestedObjectEditor .

raremat_monograph_form:MeasurementGroupForm_dcterms_description
    a sh:PropertyShape ;
    sh:path dcterms:description ;
    sh:description "Record any qualifying information about the measurement, e.g. 'approximate', 'or smaller', 'in contain
    sh:name "Qualifying information about the measurement" ;
    sh:nodeKind sh:Literal ;
    sh:order "1"^^xsd:int .
```

ARM + SHACL -> VitroLib Behavior

```
raremat_monograph_form:MeasurementForm_rdf_value
    a sh:PropertyShape ;
    sh:path rdf:value ;
    sh:description "Numeric value for the measurement" ;
    sh:name "Numeric value" ;
    sh:nodeKind sh:Literal ;
    sh:order "0"^^xsd:int .

raremat_monograph_form:MeasurementForm_measure_hasUnit
    a sh:PropertyShape ;
    sh:path measure:hasUnit ;
    sh:description "Unit used to express the measurement" ;
    sh:name "Unit" ;
    sh:nodeKind sh:IRI ;
    sh:order "1"^^xsd:int ;
    sh:in ( <http://qudt.org/vocab/unit#Centimeter> <http://qudt.org/vocab/unit#Foot> <http://qud

raremat_monograph_form:MeasurementForm_measure_measures
    a sh:PropertyShape ;
    sh:path measure:measures ;
    sh:description "Dimension or other aspect of a resource that is measured by this Measurement.
    sh:name "Dimension or other aspect" ;
    sh:nodeKind sh:IRI ;
    sh:order "2"^^xsd:int ;
    sh:in ( aat:300055621 aat:300055623 aat:300055624 aat:300055644 aat:300055645> aat:300055646
```

Outstanding Questions - SHACL

Style and consumability

- non-Modular: Mostly one file where each sh:NodeShape, not using sh:node

- Modular: Multiple files tying decisions from different sh:Nodes together using sh:node

More: https://github.com/LD4P/arm/blob/master/doc/shacl_maintenance.md

Outstanding Questions - SHACL

- Validation? (open vs. closed shapes, etc.)
- Easing SHACL creation
- Best practices for recording expected app behavior
- Designating non-reusability of instances of entity types

More: https://github.com/LD4P/arm/blob/master/doc/shacl_maintenance.md

… and you (SHACL) are not it.

- [For now], LD4P2 is using the BIBFRAME Editor (BFE)
  - [N.B. The BF Editor in LD4P2 is being branded as Sinopia.]
  - No resources allocated to convert SHACL into BFE json configuration files.
  - Even if we had the resources, the BF Profile Editor seems much easier to use for different experience levels than existing SHACL tools.
  - Should we start seeing SHACL support in library applications, maybe we can work on a BF Profile json to SHACL conversion.
    - [Library software doesn’t have a good track record of using W3C standards.]

- Where do the new BF Profiles live?

Community and Next Steps

Maintenance Questions - Ontology

Hosting

Partnership & Governance

Versioning & Use

LD4P2 Cohort Usage